

What is claimed is:

1. A method for video stream compression with spatial scalable compression scheme, wherein the video stream is a stream with resolution higher than a specific value, comprising the steps of:

5 a. processing said video stream to obtain a reconstructed stream, wherein the reconstructed stream is a stream with resolution higher than a specific value;

10 b. comparing said video stream with the reconstructed stream to obtain a residual stream, wherein the residual stream is a stream with resolution higher than a specific value;

c. carrying out the edge detection and analysis for said stream with the resolution higher than a specific value to obtain the gain value of a specified number of pixels in the stream; and

15 d. processing said residual stream using said gain value to obtain an enhancement stream.

2. The method according to claim 1, wherein step a including the steps of:
encoding the video stream after drop-sampling to obtain a base stream;
decoding and rise-sampling said base stream to obtain said
reconstructed stream.

20 3. The method according to claim 1, wherein said specified number of pixels is all of the pixels.

4. The method according to claim 1, wherein said edge detection and analysis in step c is carried out for said video stream.

25 5. The method according to claim 1, wherein said edge detection and analysis in step c is carried out for said reconstructed stream.

6. The method according to claim 1, wherein said edge detection and analysis in step c is carried out for said residual stream.

30 7. The method according to claim 1, wherein step c further comprises:
carrying out the edge detection and analysis for another said stream with resolution higher than a specific value.

8. The method according to claim 1, wherein step c comprises:

obtaining values of a pixel and the surrounding pixels in said stream with resolution higher than a specific value;

processing said values according to a predetermined edge analyzing method to confirm a edge type of said pixel;

obtaining the corresponding gain value of said pixel according to the edge type.

9. The method according to claim 8, wherein said edge type of the pixels includes edge pixel and non-edge pixel.

10. The method according to claim 9, wherein said edge pixel includes horizontal pixel, vertical pixel or diagonal pixel.

11. The method according to claim 9, wherein said non-edge pixel point include the smooth pixel or isolated point.

12. An apparatus for video stream compression with spatial scalable compression scheme, wherein the video stream is a stream with resolution higher than a specific value, comprising:

reconstructed stream creating means for processing said video stream to obtain a reconstructed stream which is a stream with resolution higher than a specific value;

residual stream obtaining means for comparing said video stream with the reconstructed stream to obtain a residual stream with resolution higher than a specific value;

edge analyzing means for carrying out the edge analysis for said stream with resolution higher than a specific value to obtain the gain value of the specified number of pixels in the stream; and

enhancement stream creating means for processing said residual stream using said gain value to obtain an enhancement stream.

13. The apparatus according to claim 12, wherein said specified number of pixels is all of the pixels.

14. The apparatus according to claim 12, wherein said edge analyzing means includes:

pixel value obtaining means for obtaining the values of a pixel and surrounding pixel in said stream with resolution higher than a specific value;

5 pixel value analyzing means for processing said value according to the predetermined edge analyzing method to confirm a edge type of said pixels;

gain value obtaining means for obtaining the corresponding gain value of said pixels according to the edge type.

10 15. The device according to claim 14, wherein said edge type includes the edge pixel or non-edge pixel.

16. The device according to claim 15, wherein said edge pixel includes the horizontal pixel, the vertical pixel or the diagonal pixel.

17. The apparatus according to claim 15, wherein said non-edge pixel includes the smooth pixel or the isolated pixel.